

67. (Original) The voltage-controlled tunable comb-ring type filter of claim 66, wherein said tunable dielectric capacitor includes a substrate having a low dielectric constant with planar surfaces.

68. (Original) The voltage-controlled tunable comb-ring type filter of claim 67, further comprising a tunable dielectric film on said substrate made from a low loss tunable dielectric material.

69. Cancel claim 69.

70. (Currently Amended) The voltage-controlled tunable comb-ring type filter of claim 66, wherein the center frequency of the filter is tuned by changing the ~~variable~~ voltage tunable dielectric capacitor's capacitance controlled by changing the voltage applied to said ~~variable~~ voltage tunable dielectric capacitor.

71. Cancel claim 71.

IN THE SPECIFICATION

Please replace the two paragraph abstract with the single paragraph as follows:

--A voltage-controlled tunable comb-ring type filter which includes a plurality of resonators and wherein the plurality of resonators include a first of at least two combline type resonators, a first of at least one ring type resonator coupled to the first of at least two combline type resonator, a second of the at least two combline type resonator coupled to the first of at least one ring type resonator and cross coupled to the first of at least two combline type resonators, and at least one of the plurality of resonators includes at least one ~~variable~~ voltage tunable dielectric capacitor.

An input transmission line is connected with at least one of the plurality of resonators and an output transmission line is connected with at least one of the resonators;.

~~The cross coupling mechanism between the second of the at least two combline type resonators with the first of at least two combline type resonators can be through a transmission line shorted on all ends of the at least two combline type resonators or by placing the first of at least one ring type resonator in a different layer or by keeping all of the at least two combline type resonators relatively straight and placing the first of at least one ring type resonator such that cross coupling occurs between the plurality of resonators by virtue of the proximity of all of the plurality of resonators. --~~

Please amend the paragraph beginning on page 2, line 17 as follows:

Inherent in every tunable filter is the ability to rapidly tune the response using high-impedance control lines. The assignee of the present invention has developed and patented tunable filter technology such as the tunable filter set forth in US Patent No. 6,525,630 entitled, "Microstrip tunable filters tuned by dielectric varactors", issued February 25, 2003 by Zhu et al. This patent is incorporated in by reference. Also, patent application ~~serial no. 09/457,943~~ publication no. 2002/0186099, entitled, "ELECTRICALLY TUNABLE FILTERS WITH DIELECTRIC VARACTORS" filed December 9, 1999, by Louise C. Sengupta et al. This application is incorporated in by reference.

Please amend the paragraph beginning on page 8, line 18 as follows:

--FIG. 6B graphically illustrates the response of the filter shown in FIG. 5 when tuned with high voltage[;].--

Please amend the paragraph beginning on page 11, line 13 as follows:

--In case of the combline resonators, the DC blocking capacitors are used at the end of the resonators as shown in FIG. 1. The DC blocking capacitor in the ring resonator is placed on the other end of the varactor position to make the overall filter structure symmetric. It is possible to use a conventional quarter-wave length long high impedance line with a quarter-wave length long radial stub for the biasing circuit. But it occupies a good amount of space, which makes the filter larger. The aforementioned Parascan® varactors developed by Paratek Microwave Inc., the assignee of the present invention, draw current in the range of few microamperes. The voltage drop in the resistor is almost negligible. Therefore, the biasing circuit for the varactors consists of short section of high impedance line and high resistor. The comb-ring type filter resonator is shown generally in FIG. 1 as 100 and now described more specifically includes a first DC bias 105, a second DC bias 110 and third DC bias 130. DC ground is provided at 115 and 185 with vias to ground shown at 125, 150, 170 and 190. Resistors are integrated into the comb-ring type filter 100 at 142, 175 and 180. The combline resonators used in the present invention are illustrated at 135 and 155 with input line 137 associated with combline resonator 135 and output line 159 integrated with combline resonator 155. Coupling input line 137 and output line 155 is input-output coupling line 195. Ring resonator is depicted at 165 with DC blocking capacitor 160 and varactor 157 associated therewith. Another DC blocking capacitor is shown at 122 and additional varactors depicted at 140 and 145.--

Please amend the paragraph beginning on page 12, line 9 as follows:

--The tuning characteristics of the filter is shown in Figures 2[A] and 2B. FIG. 2, shown generally as 200, graphically shows, in dB 205 vs. Frequency in GHz 210, insertion loss 230 and return loss 220. FIG. 2B, shown generally as 250, graphically shows, in dB 255 vs. Frequency in GHz 260 the return loss 265 and insertion loss 270.--